

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A device for transport of molecules or energy across or into a biological barrier comprising;

~~one or more~~ a plurality of microneedles, each microneedle formed of a first material and a second material,

wherein the second material is dispersed throughout at least a portion of the first material or forms a portion of the microneedle.

2. (original) The device of claim 1, wherein the first material is a polymer.

3. (original) The device of claim 2, wherein the polymer is a biodegradable polymer.

4. (original) The device of claim 3, wherein the polymer is selected from the group consisting of poly(lactide)s, poly(glycolide)s, poly(lactide-co-glycolide)s, polyanhydrides, polyorthoesters, polyetheresters, polycaprolactones, polyesteramides, poly(butyric acid)s, poly(valeric acid)s, polyhydroxyalkanoates, degradable polyurethanes, copolymers thereof, and blends thereof.

5. (original) The device of claim 2, wherein the polymer is a non-biodegradable polymer.

6. (original) The device of claim 1, wherein the first material, the second material, or both, comprise a metal.

7. (original) The device of claim 1, wherein the first material, the second material, or both, comprise molecules to be released.

8. (original) The device of claim 7, wherein the molecules to be released comprise a drug.

9. (original) The device of claim 8, wherein the drug is a vaccine.

10. (original) The device of claim 1, wherein the second material is dispersed homogeneously through the first material.

11. (original) The device of claim 10, where the second material comprises rigid particles which enhance the mechanical strength of the microneedles compared to microneedles formed without the second material.

12. (original) The device of claim 1, wherein the second material is a salt or other leachable particle.

13. (original) The device of claim 1, wherein the second material is heterogeneously combined with the first material.

14. (original) The device of claim 13, wherein the second material is layered over or within the first material.

15. (original) The device of claim 13, wherein the microneedles have a selected weak linkage formed of the second material, which dissolves, degrades, or breaks after insertion into the biological barrier.

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Can 16. (currently amended) The device of claim 13, wherein the ~~microneedle is~~ microneedles are formed of a first material and ~~comprises a channel~~ comprise channels which ~~extends~~ extend longitudinally along the exterior surface of the ~~microneedle~~ microneedles, and wherein the ~~channel is~~ channels are filled with the second material.

17. (original) The device of claim 16, wherein the second material comprises a polymer matrix in which drug molecules are dispersed.

18. (currently amended) The device of claim 13, wherein the ~~microneedle is~~ microneedles are formed of a first material and comprises an interior bore in which the second material is located.

19. (original) The device of claim 18, wherein the second material comprises a drug or a polymer matrix in which drug molecules are dispersed.

20. (original) The device of claim 1, wherein the second material is a sensor.

21. (currently amended) The device of claim 20, wherein the sensor is in a bore or channel in the ~~microneedle~~ microneedles.

22. (currently amended) The device of claim 1, further comprising a substrate from which a the plurality of ~~the~~ microneedles extend.

23. (currently amended) The device of claim 1, wherein the ~~microneedle has a length~~ microneedles have lengths between about 10 and 500 microns.

24. (currently amended) The device of claim 23, wherein the ~~microneedle have a width~~ microneedles have widths between about 10 and 500 microns.

Q1 25. (original) A device for transport of molecules or energy across or into a biological barrier comprising:

Cont a substrate, and

a plurality of microneedles integral with or attached to and extending from the substrate,

wherein the microneedles have a beveled or tapered tip portion, a longitudinally extending exterior channel, or both.

26. (original) The device of claim 25, wherein each microneedle is formed of a first material and a second material, the second material being dispersed throughout at least a portion of the first material or forming a portion of the microneedle.

27. (currently amended) The device of claim 25 wherein the ~~microneedle comprises~~ microneedles comprise a polymer or a metal.

28. (currently amended) The device of claim 25, wherein the ~~microneedle comprises~~
microneedles comprise comprise molecules to be released.

29. (currently amended) A method of delivering molecules across or into a biological barrier,
the method comprising:

inserting the ~~microneedle~~ microneedles of the device of claim 7 into a biological
barrier; and

permitting the molecules to be released from the ~~microneedle~~ microneedles.

30. (currently amended) A method of delivering molecules across or into a biological barrier,
the method comprising:

inserting the ~~microneedle~~ microneedles of the device of claim 28 into a biological
barrier; and

permitting the molecules to be released from the ~~microneedle~~ microneedles.

31-54 (withdrawn)